REMARKS

Claims 10-29 are presently in the application. The above amendments are being made to place the application in better condition for examination.

Claim 10 as amended herein is directed to a fluid pump for use in a fuel injection apparatus of an internal combustion engine comprising:

a housing that contains a pump chamber in which two rotary driven delivery elements are contained, the delivery elements delivering fluid to a delivery chamber from an intake chamber connected to a reservoir;

a pressure limiting valve for limiting the pressure prevailing in the pressure chamber, the pressure limiting valve having a valve piston inside the housing, the valve piston being acted on in a closing direction by a prestressed closing spring and being acted on in an opening direction by the pressure prevailing in the pressure chamber and, when a predetermined pressure in the delivery chamber is exceeded, the valve piston opens a connecting conduit from the delivery chamber to the intake chamber;

a filter preceding the fluid pump or a filter following the fluid pump; and

a connection from the pressure chamber to a region downstream of the filter preceding the fluid pump or a connection from the pressure chamber to a region downstream of the filter following the fluid pump, ***through which connection a compensation for pressure drops at the filter is effected by the pressure limiting valve***,

wherein the pressure prevailing in the pressure chamber influences a force on the valve piston in the closing direction in such a way that as the pressure in the pressure chamber decreases, the force on the valve piston in the closing direction increases, and ***wherein a***

center of a bore that slidingly guides the valve piston therein is offset from a connecting line between rotational axes of the two delivery elements.

Claims 10-29 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The examiner finds the limitation of "the valve piston is offset from a connecting line between the axes of rotation of the two delivery elements" to lack support in the specification, and further, interprets the limitation to an extreme which can be found not to be true.

Furthermore, claims 10-29 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for containing grammatical errors and inconsistent wording.

Applicant has amended claim 10 to clarify that a center of a bore that slidingly guides the valve piston therein is offset from a connecting line between rotational axes of the two delivery elements. Additionally it is believed that any previous indefiniteness has been corrected. Accordingly, withdrawal of the rejection under 35 U.S.C. 112 is respectfully requested.

Reconsideration of the rejection of claims 10-29 under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art (AAPA) in view of Zenith (GB 750,673), is respectfully requested.

The present rejection is virtually identical to the previous rejection presented in the Final Office action of February 19, 2009 with the following additional comments by the examiner in paragraph 13 of the Office action.

> "Note further that the combination of AAPA/Zenith will inherently consist of the valve piston being offset from a connecting line between the axes of rotation of the

two delivery elements. Fig. 3 above clearly shows this because the axes of rotation of 5 and 6 extend left/right for a far length at least as far as the rotors themselves, but actually, an infinite distance. One can see above that at the far left portion of each rotor, 5 and 6, if a connecting line were to be made between those points, the piston valve would certainly be offset from that line."

The examiner clearly applies the intended meaning of the claimed limitation regarding the valve piston being offset in a different manner with regard to AAPA/Zenith. Zenith does not have the same structural arrangement as the invention. Applicant has amended claim 10 with more concise language to define these structural differences. In particular, claim 10 recites "a center of a bore that slidingly guides the valve piston therein is offset from a connecting line between rotational axes of the two delivery elements." The AAPA/Zenith combination has no such arrangement and therefore fails to render obvious the present invention.

The examiner notes with respect to the arguments filed on September 22, 2009, that the characteristics of claim 10 in terms of the embodiment that the pressure chamber communicates with a region downstream of the filter, thus a compensation for different pressure drops is effected by the filter, is not positively claimed and therefore hasn't been given patentable weight in the office action.

Applicant wishes to explain that the above underlined wording is not quite accurate, since the compensation for the different pressure drops at the filter 82, 83 is effected not by the filter but by the pressure limiting valve 50. Claim 10 therefore has been amended to read "a connection from the pressure chamber to a region downstream of the filter preceding the fluid pump or a connection from the pressure chamber to a region downstream of the filter following

the fluid pump, ***through which connection a compensation for pressure drops at the filter is effected by the pressure limiting valve***". Since the pressure limiting valve controls limiting the pressure prevailing in the pressure chamber, and a connection from the pressure chamber to a region downstream of the filter preceding the fluid pump or a connection from the pressure chamber to a region downstream of the filter following the fluid pump is provided, potential pressure drops are compensated for.

Support for this characteristic is collectively found in paragraphs [0020-0022]. As described in paragraph [0021], "The pressure chamber 85 is connected to a region downstream of the fine filter 83 so that the same pressure prevails in the pressure chamber 83 as downstream of the fine filter 83. When only the prefilter 82 is provided, then the pressure chamber 85 is connected to a region downstream of the prefilter 82 so that the same pressure prevails in the pressure chamber 85 as downstream of the prefilter 82 and upstream of the gear pump."

Comparing the Zenith reference with the pump according to present claim 10 clearly shows that a chamber, corresponding to the pressure chamber 85 of the pump of the invention, is not present in the Zenith reference. The chamber 25 in Zenith communicates with the pressure chamber 15 of the pump via a throttle restriction 29, so that with increasing pressure in the pressure chamber 15, the pressure in the chamber 25 rises and well, as thus, the closing force on the valve piston 23 is reduced. In the Zenith reference, the chamber 34 communicates with the atmosphere via bores 35. Thus, in the Zenith reference, a simple pressure limiting valve is realized, in which only as a function of the pressure in the pressure chamber 15 is the valve piston 29 pressed more or less strongly in the closing direction.

Deviating from this, in the present invention the pressure chamber 85 is additionally provided, which communicates with a region downstream of the filter. Thus, in the pump of the present invention, a control of the valve piston that is dependent on the pressure drop through the filter is additionally achieved, which is not provided in Zenith. Even if Zenith is combined with the fundamental prior art cited in the application, this kind of function is not arrived at, nor is the recited structural arrangement. In the pump according to claim 10 of the present application, at a high pressure drop through the filter the pressure downstream of the filter is low, and thus according to claim 10 of the present application, the force acting on the valve piston in the closing direction is increased, so that more fluid is pumped by the pump, and as a result the increased pressure drop through the filter is compensated for. When the pressure drop through the filter is slight, the closing force acting on the valve piston is less, and thus correspondingly less fluid is pumped by the pump, since there is no need to compensate for a great pressure drop through the filter. In Zenith, the valve piston 23 of the pressure limiting valve is actuated only as a function of the pressure in the pressure chamber 15, so that no compensation for the different pressure drops through a filter is possible.

Neither the fundamental prior art (AAPA) nor Zenith disclose or suggest when taken alone or combined, the combination and structural arrangement of the elements according to claim 10, including the arrangement of the filter with the fluid pump having a pressure limiting valve for limiting the pressure prevailing in the pressure chamber, a filter preceding the fluid pump or a filter following the fluid pump, a connection from the pressure chamber to a region downstream of the filter preceding the fluid pump or a connection from the pressure chamber to a region downstream of the filter following the fluid pump, ***through***

which connection a compensation for pressure drops at the filter is effected by the pressure limiting valve, and ***wherein a center of a bore that slidingly guides the valve piston therein is offset from a connecting line between rotational axes of the two delivery elements***. The AAPA/Zenith combination fails to meet the requirements under 35 U.S.C. 103.

Therefore, it is respectfully requested that the rejection of the claims be withdrawn.

Entry of the amendment is respectfully solicited.

Respectfully submitted,

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